Soil Invertebrates (Nematoda, Acari : Oribatei, Collembola) of Codri Forest Reserve (Special Papers in Honor of late Professor Ryozo Yoshii)

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Soil Invertebrates (Nematoda, Acari: Oribatei, Collembola) of Codri Forest Reserve

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ABSTRACT We investigated the diversity of soil nematodes and microarthropods in oak, beech, lime-ash, oak-hornbeam, maple-hornbeam and mixed forests of the Codri Reserve. 339 species including 143 species of nematodes, 88 species of oribatei and 108 species of Collembola were found. Eight new species of nematodes and Collembola were described.

KEY WORDS Soil invertebrates / nematodes / oribatei / Collembola / specific diversity / forest reserve / Moldova.

Introduction

The Convention regarding protection of biological diversity (Rio de Janeiro, 1992), concluded that at present, reserves represent the principle sources of conservation for gene pools of living organisms. They are particularly important in areas with increased population density and intensive agricultural use. Small soil invertebrates have the least studied animals in these reserves, despite the fact that they directly participate in the formation of natural fertility and transforming organic material, as well as its humification and mineralization.

The first data regarding soil nematodes of the Codri Reserve are found in articles from the 1960-70's (Nesterov & Lisetzkaja, 1965; Lisetzkaja, 1968; Nesterov 1979). In this period, the Codri Reserve, located on the eastern border area, was in the process of becoming a state protected zone. The most detailed research regarding this area was done in the second half of the 1990's on soil nematodes (Ghebre, Nesterov & Okopni, 1994; Poiras & Nesterov, 1996; Poiras, Nesterov & Popovici, 1998; Poiras 1999a, Poiras & Bushmakiu 1999) and microarthropods (Bushmakiu 1995, 1996a, 1996b, 1999a, Tcaciuc, 1999)

The Codri Forest Reserve is situated at an altitude of between 200-400m in the central part of the Republic of Moldova (MCPM in UTM system). Its area extends over approximately 12 thousand hectares. Trees which are 150-160 years old occupy 66 percent of the reserve.

The source of the Bic and Botna Rivers, which belong to the Dneister Basin, is in the reserve. These rivers form flood plains In the lower part of the reserve. The climatic conditions of the reserve are characterized by temperate continental conditions, with short warm winters and long hot summers and low precipitation. An annual mean

temperature of 8.7℃ (the absolute annual minimum is minus 20℃, with a maximum of 35℃), and an annual mean precipitation of 446 mm.

The dominant vegetation of the area is Central European broad-leaved forests, dominated by oak and beech trees. The basic forest types are the following:

1 Oak forest: *Quercus petraea-Quercus robur* (Q).
2 Beech forest: *Fagus sylvatica* (Fs).
3 Lime-ash forest: *Tilia tomentosa-Tilia cordata-Fraxinus excelsior* (TFe).
4 Oak-hornbeam forest: *Quercus petraea-Carpinus betulus* (QCb).
5 Maple-hornbeam forest: *Acer campestre-Acer platanoides-Carpinus betulus* (ACb).
6 Mixed forest (Mix).

The chief species of grasslands are *Asperula cynanchica, Aegopodium podagraria, Asarum europaeum, Carex pilosa, Carex brevicollis.*

Soil types include brown podzolic, sandy loamy, with a humus alluvial horizon (pH = 6.5; humus content = 5.2 − 5.6%) and grey forest soil, hydromorphic, sandy clay, with a humus alluvial horizon (pH = 7.6; humus content = 4.9−6.3%).

Materials and Methods

Samples of soil invertebrates were collected from six general forest types (Fig. 1). Ten replicated samples were taken from the litter and the first 15 cm of mineral soil horizon. A modified Baermann extraction method for nematodes and the modified Berlese-Tullgren funnels method for microarthropods was used. Species were determined using the following basic reference sources for nematodes: Nesterov, 1979; Adrassy, 1985, 1990, 1991, 1993; Brzeski, 1997 and for microarthropods: Ghiliarov & Krivolutsky, 1975; Balogh & Mahunka, 1983; Subias & Balogh, 1989; Niedbala, 1992; Stach 1949-1963; Gisin, 1960; Babenco, 1988, 1994; Pomorski, 1998; Christiansen & Bellinger, 1998. Species marked with an asterisk indicate a new species, in the following list of species.

List of Species

NEMATODA

TYLENCHIDAE ÖRLEY, 1880

Aglenchusa agricola (de Man, 1884) Meyl, 1960
Coslenchus costatus (de Man, 1921)
Filenchus thornei Andrássy, 1954
Lelenchus leptosoma (de Man, 1880)
Lelenchus minutus (Cobb, 1893)
Malenchus fusiformis (Thorne & Malek, 1968) Siddiqi, 1979
Psilenchus hilarulus de Man, 1921
Tylenchus davainei Bastian, 1865
Tylenchus elegans de Man, 1876

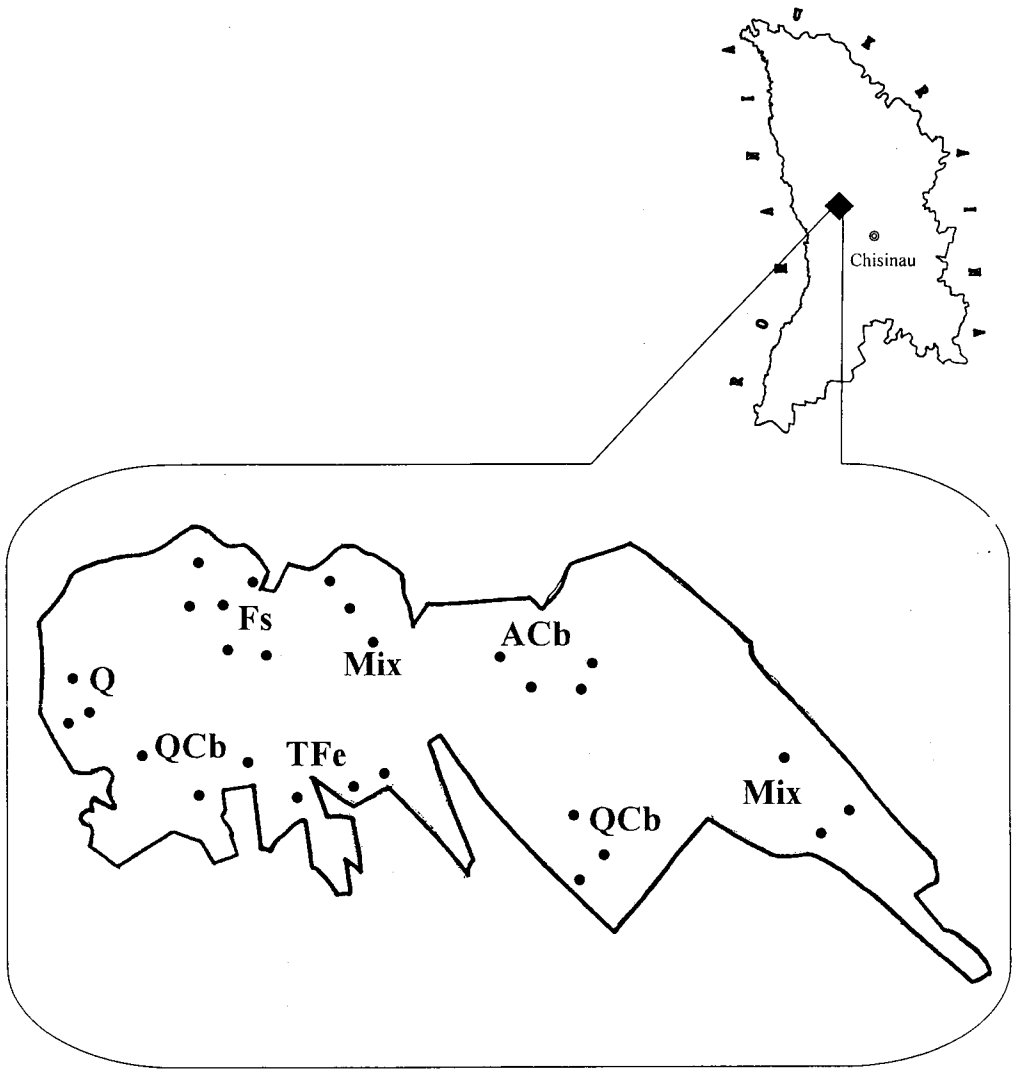

Fig. 1 Map of sampling sites in different forest types of Codri Reserve (abbeviation in text)

ANGUINIDAE NICOLL, 1935

Ditylenchus triformis Hirschman & Sasser, 1955

BELONOLAIMIDAE WHITEHEAD, 1960

Geocenamus brevidens (Allen, 1955)

Tylenchorhynchus dubius (Bütschli, 1873)

PRATYLENCHIDAE THORNE, 1949

Pratylenchus neglectus (Rensch, 1924)

HOPLOLAIMIDAE FILIPJEV, 1934

Helicotylenchus vulgaris Yuen, 1964

Rotylenchus incultus Sher, 1965

CRICONEMATIDAE TAYLOR, 1936

Criconemoides informis (Micoletzky, 1922)

Criconemoides zavadskyi (Tulaganov, 1941) Raski, 1955

Mesocriconema beljaevae (Kirjanova, 1948) Ivanova, 1976

Nothocriconemoides lineolatus (Mass, Loof & de Grisse, 1971)

TYLENCHULIDAE SKARBILOVICH, 1947

Gracilacus crenata (Corbett, 1966) Raski, 1976

Gracilacus straeleni (de Coninck, 1931) Raski, 1962

Paratylenchus hamatus Thorne & Allen, 1950

APHELENCHIDAE FUCHS, 1937

Aphelenchus avenae Bastian, 1865

PARAPHELENCHIDAE GOODEY, 1951

Paraphelenchus amblyurus Steiner, 1934

APHELENCHOIDIDAE SKARBILOVICH, 1947

Aphelenchoides asterocaudatus Das, 1960

Aphelenchoides bicaudatus (Imamura, 1931) Filipjev & Sch. Stekhoven, 1941

Aphelenchoides saprophilus Franklin, 1957

Aphelenchoides subtenuis (Cobb, 1926) Steiner & Buhrer, 1932

SEINURIDAE HUSAIN & KHAN, 1967

Seinura diversa (Paesler, 1957) Goodey, 1960

Seinura oxura (Paesler, 1957) J.B. Goodey, 1960

RHABDITIDAE ÖRLEY, 1880

Mesorhabditis considerata Andrássy, 1983

Mesorhabditis inarimensis (Meyl, 1953)

Mesorhabditis ultima (Körner in Osche, 1952) Dougherty, 1955

Protorhabditis filiformis (Butschli, 1873)

Protorhabditis xylocola (Körner in Osche, 1952) Dougherty, 1953

Rhabditis cucumeris (Marcinowski, 1909)

DIPLOSCAPTERIDAE MICOLETZKY, 1922

Diploscapter coronatus (Cobb, 1893)

Bunonematidae Micoletzky, 1922

Bunonema richtersi Jägerskioeld, 1905

Cephalobidae Filipjev, 1934

Acrobeles ciliatus Linstow, 1877
Acrobeles iliazensis Paesler, 1941
Acrobeloides buetschlii (de Man, 1884)
Acrobeloides nanus (de Man, 1880) Anderson, 1968
Acrobeloides tricornis Thorne, 1925
Acrobelophis soosi (Andrássy, 1953)
Acrolobus emarginatus (de Man, 1880) Thorne, 1937
Cephalobus persegnis Bastian, 1865
Cervidellus serratus (Thorne, 1925) Thorne, 1937
Chiloplacus lentus (Maupas, 1900) Thorne, 1937
Chiloplacus propinquus (de Man, 1921) Thorne, 1937
Chiloplacus symmetricus (Thorne, 1925) Thorne, 1937
Eucephalobus mucronatus (Kozlowska & Roguska-Wasilevska, 1963)
Eucephalobus oxyuroides (de Man, 1876) Steiner, 1963
Eucephalobus paracornutus de Coninck, 1943
Eucephalobus striatus (Bastian, 1865) Thorne, 1937
Heterocephalobus buchneri (Meyl, 1955)
Heterocephalobus latus (Cobb, 1906)
Pseudacrobeles laevis (Thorne, 1937)
Pseudacrobeles teres (Thorne, 1937)

Ostellideae Heyns, 1962

*Drilocephalobus moldavicus** Lisetzkaja, 1968

Panagrolaimidae Thorne, 1937

Panagrolaimus rigidus (Schneider, 1866) Thorne, 1937

Alirhabditidae Suryawanshi, 1971

*Alirhabditis clavatus** Nesterov, 1979

Teratocephalidae Andrássy, 1958

Teratocephalus terrestris (Bütschli, 1873) de Man, 1876

Neodiplogasteridae Paramonov, 1952

Pristionchus lheritieri (Maupas, 1919)

Monhysteridae De Man, 1876

Eumonhystera filiformis (Bastian, 1865)
Eumonhystera vulgaris (de Man, 1880)
Geomonhystera aenariensis (Meyl, 1953)

Anaplectidae Zell, 1993

Anaplectus granulosus (Bastian, 1865) de Coninck et Sch. Stekhoven, 1913

Plectidae Örley, 1880

Ceratoplectus armatus (Bütschli, 1873)
Plectus longicaudatus Bütschli, 1873
Plectus parietinus Bastian, 1865
Plectus parvus Bastian, 1865

Plectus rhizophilus de Man, 1880
Tylocephalus auriculatus (Butschli, 1873) Anderson, 1966
Wilsonema agrarum Nesterov, 1970
Wilsonema otophorum (de Man, 1880) Cobb, 1913

DIPLOPELTIDAE DE CONINCK & SCHUURMANS STEKHOVEN, 1933

Cylindrolaimus communis de Man, 1880

RHABDOLAIMIDAE CHITWOOD, 1951

Rhabdolaimus terrestris de Man, 1880

CHROMADORIDAE FILIPJEV, 1917

Punctodora ratzeburgensis (Linstow, 1976) Achromadoridae

ACHROMADORIDAE GERLACH & RIEMANN, 1973

Achromadora micoletzkyi (Stefanski, 1915)
Achromadora Ruricola (de Man, 1880) Micoletzky, 1925

DESMODORIDAE FILIPJEV, 1922

Prodesmodora terricola Altherr, 1925

ODONTOLAIMIDAE GERLACH & RIEMANN, 1974

Odontolaimus chlorurus de Man, 1880

AULOLAIMIDAE JAIRAJPURI & HOOPER, 1968

Aulolaimus oxycephalus de Man, 1880

BASTIANIDAE DE CONINCK, 1935

Bastiania gracilis de Man, 1876

PRISMATOLAIMIDAE MICOLETZKY, 1922

Prismatolaimus dolichurus de Man, 1880
Prismatolaimus intermedius (Bütschli, 1873) de Man, 1880

TOBRILIDAE DE CONINCK, 1965

Tobrilus imberbis (Andrássy, 1953) Andrássy, 1959

TRIPYLIDAE DE MAN, 1876

Tripyla filicaudata de Man, 1880
*Tripyla longicaudata** Nesterov, 1979
Trischistoma monohystera (de Man, 1880) Yeates, 1971

ALAIMIDAE MICOLETZKY, 1922

Alaimus editorus Siddiqi & Husain, 1967
Alaimus primitivus de Man, 1880
Paramphidelus dolichurus (de Man, 1876) Thorne, 1939
Paramphidelus pseudobulbosus (Altherr, 1953)

MONONCHIDAE CHITWOOD, 1937

Clarkus papillatus (Bastian, 1865) Jairajpuri, 1970
Coomansus zschokkei (Menzel, 1913)
Mononchus truncatus Bastian, 1865
Prionchulus muscorum (Dujardin, 1845) Wu & Hoepli, 1928

MYLONCHULIDAE JAIRAJPURI, 1969

Mylonchulus brachyuris (Bütschli, 1873) Altherr, 1954

Mylonchulus curvicaudatus Mulvey & Jensen, 1967
Mylonchulus rotundicaudatus (Skwarra, 1921) Andrássy, 1958
Mylonchulus sigmaturus (Cobb, 1917)

ANATONCHIDAE JAIRAJPURI, 1969

Anatonchus tridentatus (de Man, 1876) de Coninck, 1939

DORYLAIMIDAE DE MAN, 1876

Laimydorus filiformis (Bastian, 1865) Siddiqi, 1969
Laimydorus vixamictus (Andrássy, 1962) Siddiqi, 1969
Mesodorylaimus bastiani (Bütschli, 1873) Andrássy, 1959
Mesodorylaimus mesonyctius (Kreis, 1930)

APORCELAIMIDAE HEYNS, 1965

*Aporcelaimellus amplexor** (Nesterov & Lisetzkaja, 1965)
Aporcelaimellus krygeri (Ditlevsen, 1928) Heyns, 1965
Aporcelaimellus obtusicaudatus (Bastian, 1865) Heyns, 1965
Paraxonchium laetificans (Andrássy, 1956)

QUDSIANEMATIDAE JAIRAJPURI, 1965

Discolaimium cylindricum Thorne, 1939
Discolaimus major (Thorne, 1939) Loof, 1964
Dorydorella bryophila (de Man, 1880) Andrássy, 1986
Ecumenicus monohystera (de Man, 1880)
Epidorylaimus lugdunensis (de Man, 1880) Andrássy, 1986
Eudorylaimus acuticauda (de Man, 1880)
Eudorylaimus brunetti (Meyl, 1953) Andrássy, 1959
Eudorylaimus bureshi (Andrássy, 1958) Andrássy, 1959
Eudorylaimus centrocercus (de Man, 1880)
Eudorylaimus maritus Andrássy, 1959
Microdorylaimus parvus (de Man, 1880)
Takamangai ettersbergensis (de Man, 1885) Andrássy, 1959
Takamangai minuta (Bütschli, 1873)

NORDIIDAE JAIRAJPURI & A.H. SIDDIQI, 1964

Enchodelus microdorus Schiemer, 1965
Longidorella parva Thorne, 1939

LONGIDORIDAE THORNE, 1935

Longidorus elongatus (de Man, 1876) Thorne & Swanger, 1936

XIPHINEMATIDAE DALMASSO, 1967

Xiphinema rivesi Dalmasso, 1969

BELONDIRIDAE THORNE, 1935

*Oxydirus terramoldavicus** Ghebre, Nesterov & Okopni, 1994

TYLENCHOLAIMIDAE FILIPJEV, 1934

Tylencholaimus maritus Loof & Jairajpuri, 1968
Tylencholaimus nanus Thorne, 1939
*Tylencholaimus pacificus** Nesterov, 1979

Tylencholaimus stecki Steiner, 1914

LEPTONCHIDAE THORNE, 1935

Leptonchus granulosus Cobb, 1920

Tylencholaimellus affinis (Brakenhoff, 1914) Thorne, 1939

Tylencholaimellus coronatus Thorne, 1939

NYGOLAIMIDAE THORNE, 1935

Aquatides aquaticus Thorne, 1930

Nygolaimus bisexualis Thorne, 1930

Nygolaimus brachyuris (de Man, 1880) Thorne, 1930

DIPHTHEROPHORIDAE MICOLETZKY, 1922

Diphtherophora communis de Man, 1880

*Diphtherophora tegumenta** Poiras & Nesterov, 1996

TRICHODORIDAE THORNE, 1935

Trichodorus primitivus (de Man, 1880) Micoletzky, 1922.

ACARI: ORIBATEI

BRANCHYCHTHONIOIDEA THOR, 1994

Sellnickochtonius immaculatus Forschlund, 1942

Liochthanius neglectus Moritz, 1976

COSMOCHTHONIIDAE GRANDJEAN, 1947

Cosmochthonius lanatus (Michael, 1885)

HYPOCHTHONIIDAE BERLESE, 1910

Hypochthonius luteus Qudemans, 1913

Hypochthonius rufulus C.L. Koch, 1836

ENIOCHTHONIIDAE GRANDJEAN, 1947

Hypochthoniella minutissima (Berlese, 1904)

EULOHMANNIIDAE GRANDJEAN, 1931

Eulohmanniia ribagai Berlese, 1910

EPILOHMANNIIDAE QUDEMANS, 1913

Epilohmannia cylyndrica (Berlese, 1904)

PERLOMANNIIDEA GRANDJEAN, 1954

Perlomannia nasuta Schuster, 1960

EUPHTHIRACARIDAE JACOT, 1930

Euphiracarus monodactylus Wilmann, 1919

Rhysothritia ardua (C.L. Koch, 1841)

Rhysothritia dublicata (Grandjean, 1953)

PHTHIRACARIDAE PERTY, 1841

Phthyracarus niteus Nicolet, 1856

Phthyracarus serratus (Feider et Suciu, 1957)

STEGANACARIDAE NIEDBALA, 1986

Steganacarus carinatus (C.L. Koch, 1841)

Artropocarus serratus (Feider et Suciu, 1957)

NOTHRIDAE BERLESE, 1885

Nothrus biciliatus C.L. Koch, 1841

Nothrus selvestris Nicolet, 1855

CAMISIIDAE QUDEMANS, 1900

Camisia spinifer (C.L. Koch, 1836)

Heminothrus targeonii (Berlese, 1855)

Platynothrus peltifer (C.L. Koch, 1839)

NANHERMANNOIDEA SELLNIC, 1928

Nanhermannia nana (Nicolet, 1855)

HERMANNOIDEA BALOGH, 1972

Hermannia gibba (C.L. Koch, 1839)

Hermanniellidae Grandjean, 1934

Hermanniella dolosa Grandjean, 1931

LIODOIDAE BALOGH, 1961

Platylioides doderleinii Berlese, 1916

DAMAEIDAE BERLESE, 1896

Epidameus bituberculatus (Kulczynski, 1902)

Epidameus kamaensia (Sellnick, 1925)

Spatidamaeus subverticillipes Bulanova-Zachvatkina, 1957

BELBIDAE WILLMANN, 1931

Metabelba pulverulenta (C.L. Koch, 1836)

Metabelba rondendorfi Bulanova-Zachvatkina, 1965

CEPHEIDEA BERLESE, 1896

Cepheus dentatus (Michael, 1880)

Cepheus grandis Sitnicova, 1975

EREMAEIDAE SELLNIC, 1928

Eremaeus hepaticus C.L. Koch, 1836

Eremaeus oblongus C.L. Koch, 1836

ZETORCHESTIDAE MICHAEL, 1898

Zetorchestes micronichus (Berlese, 1883)

LIACARIDAE SELLNICK, 1928

Liacarus coracinus (C.L. Koch, 1840)

Liacarus nitens (Gervais, 1844)

Dorycranosus moraviacus (Willmann, 1954)

XENILLIDAE WOOLEY & HIGGINS, 1966

Xenillus discrepans Grandjean, 1936

Xenillus tegeocranus (Hermann, 1804)

GUSTAVIIDAE QUDEMANS, 1900

Gustavia microcephala (Nicolet, 1855)

CARABODIDAE C.L. KOCH, 1837

Carabodes coriaceus C.L. Koch, 1836

Carabodes femoralies (Nicolet, 1855)

Carabodes reticulatus Berlese, 1916

TECTOCEPHEIDAE GRANDJEAN, 1954

Tectocepheus minor Berlese, 1903

Tectocepheus velatus (Michael, 1880)

OPPIIDAE GRANDJEAN, 1954

Moritzoppia unicarinatum (Paoli, 1908)

Oppiella nova (Qudemans, 1902)

Medioppia obsoleta (Paoli, 1908)

Berniniella carinatissima Subias, Rodriguez et Minguez, 1987

Berniniella bicarinata (Paoli, 1908)

Microppia minus longisetova Subias et Rodriguez, 1988

Zauroppia falcata (Paoli, 1908)

Oppia concolor C.L. Koch, 1840

Multioppia glabra Miheli, 1917

SUCTOBELBIDAE GRANDJEAN, 1954

Suctobelbella acutidens (Forsslund, 1941)

Suctobelbella nasalis (Forsslund, 1941)

GYMBAREMAEIDAE SELLNICH, 1928

Gymbaeremaeus cymba (Nicolet, 1855).

PELOPIDAE EWIG, 1917

Eupelops accutidens (C.L. Koch, 1836)

Eupelops torulosus (C.L. Koch, 1836)

Peloptulus phaenotus (C.L. Koch, 1844)

ORIBATELLIDAE JACOT, 1925

Oribatella guadricarinata (Michael, 1880)

Oribatella ornata Coggi, 1900

Oribatella reticulata Berlese, 1916

ACHIPTERIDAE THOR, 1929

Parachipteria punctata Nicolet, 1855

Achipteria coleoptrata (Lenne, 1758)

Achipteria nitens (Nicolet, 1855)

MYCOBATIDAE GRANDJEAN, 1953

Minunthozetes pseudofusiger (Schweizer, 1922)

Punctorybates punctum C.L. Koch, 1839

CERATOZETIDAE JACOT, 1925

Ceratozetes gracilis (Mihelcic, 1884)

Ceratozetes mediocris Berlese, 1908

Melanozetes mediocris Hull, 1916

CHAMOBATIDAE GRANDJEAN, 1954

Chamobates cuspidatus (Michael, 1884)

Chamobates voigti (Qudemans, 1902)

GALUMNIDAE GRANDJEAN, 1936

Galumna elimata (C.L. Koch, 1841)
Galumna lanceata Qudemans, 1900
Galumna obvia Berlese, 1915
Pergalumna nervosa (Berlese, 1915)

PROTORIBATIDAE J. BALOGH & P. BALOGH, 1984

Libstadia nova Willmann, 1953
Protoribates capucinus Berlese, 1908

HAPLOZETIDAE GRANDJEAN, 1936

Haplozetes vindobadensis Willmann, 1935

Oribatulidae Thor, 1929

Oribatula tibialis Nicolet, 1855
Zygoribatyla cognata (Qudemans, 1902)

Schelorybatydae Grandjean, 1953

Schelorybates laevigatus (C.L. Koch, 1836)
Schelorybates pallidus (C.L. Koch, 1840)
Hemileius initialis Berlese, 1916

COLLEMBOLA

PODURIDAE BORNER, 1906

Podura aquatica Linne, 1758

HYPOGASTRURIDAE BORNER, 1913

Xenylla brevicauda Tullberg, 1869
Xenylla maritima (Tullberg, 1869)
Schoettella ununguiculata (Tullberg, 1869)
Hypogastrura crassaegranulata (Stach, 1949)
Hypogastrura manubrialis (Tullberg, 1869)
Hypogastrura vernalis (Carl, 1901)
Hypogastrura viatica (Tullberg, 1872)
Hypogastrura (*Ceratophisella*) *armata* (Nicolet, 1841)
Hypogastrura (*Ceratophisella*) *denticulata* (Bagnall, 1941)
Hypogastrura (*Ceratophisella*) *engadinensis* Gisin, 1949
Hypogastrura (*Ceratophisella*) *succinea* Gisin, 1949

ODONTELLIDAE (MASSOUD, 1967)

Odontella lamelifera (Axelson, 1903)
Axenyllodes bayeri (Kseneman, 1935)

NEANURIDAE BORNER, 1901

Friesea mirabilis (Tullberg, 1871)
Friesea octoculata Stach, 1949
Pseudachorutes dubius Krausbauer, 1898
Pseudachorutes subcrassus Tullberg, 1871
Pseudachorutella assigillata (Borner, 1901)

Neanura muscorum (Templeton, 1835)

ONYCHIURIDAE BÖRNER 1913

Tullbergia krausbaueri Borner, 1901
Metaphorura affinis (Borner, 1902)
Archaphorura serratotuberculata (Stach, 1933)
Oligaphorura schoetti (Lie-Pettersen, 1896)
Protaphorura armata (Tullberg, 1869)
Protaphorura campata (Gisin, 1952)
Protaphorura cancellata (Gisin, 1956)
Protaphorura octopunctata (Tullberg, 1876)
Protaphorura quadriocellata (Gisin, 1947)
*Protaphorura rectopunctata** Bushmakiu, 1995
Onychiurus silvarius (Gisin, 1952)
Onychiuroides granulosus (Stach, 1930)
Orthonychiurus rectopapillatus (Stach, 1933)

ISOTOMIDAE BÖRNER, 1913

Folsomides parvulus Stach, 1922
Cryptopygus bipunctatus (Axelson, 1903)
Cryptopygus thermophilus (Axelson, 1900)
Isotomodes productus (Axelson, 1906)
Isotomodes sexsetosus Gama, 1963
Folsomia candida Willem, 1902
Folsomia quadrioculata (Tullberg, 1879)
Proisotoma minuta (Tullberg, 1871)
Isotomurus palustris (Muller, 1776)
Isotomiella minor (Schaffer, 1896)
Isotoma (*Isotoma*) *viridis* Bourlet, 1839
Isotoma (*Parisotoma*) *notabilis* Schaffer, 1896
Isotoma (*Desoria*) *albella* Packard, 1873
Isotoma (*Desoria*) *fennica* Reuter, 1895
Isotoma (*Desoria*) *olivacea* Tullberg, 1871
Isotoma (*Desoria*) *propinqua* Axelson, 1903
Isotoma (*Desoria*) *violacea* Tullberg, 1876

ENTOMOBRYIDAE SCHÖTT, 1891

Entomobrya atrocincta Schoett, 1896
Entomobrya corticalis Nicolet, 1841
Entomobrya lanuginosa (Nicolet, 1842)
Entomobrya marginata (Tullberg, 1871)
Entomobrya multifasciata (Tullberg, 1871)
Entomobrya muscorum (Nicolet, 1841)
Entomobrya nivalis (Linnaeus, 1758)
Entomobrya pazaristei Denis, 1936

Entomobrya puncteola Uzel, 1891
Entomobrya quinqueliniata Borner, 1901
Entomobrya spectabilis Reuter, 1890
Sinella curviseta Brook, 1882
Willowsia buski (Lubbock, 1869)
Willowsia nigromaculata (Lubbock, 1873)
Pseudosinella alba (Packard, 1873)
Pseudosinella imparipunctata Gisin, 1953
Pseudosinella octopunctata Borner, 1901
Pseudosinella wahlgreni (Wahlgren, 1906)
Seira domestica (Nicolet, 1842)
Seira ferrarii Parona, 1888
Lepidocyrtus curvicollis Bourlet, 1839
Lepidocyrtus cyaneus (Tullberg, 1871)
Lepidocyrtus lanuginosus (Gmelin, 1788)
Lepidocyrtus lignorum (Fabricius, 1793)
Lepidocyrtus paradoxus (Uzel, 1890)
Lepidocyrtus violaceus (Geoffroy, 1762)
Heteromurus (*Heteromurus*) *major* Moniez, 1889
Heteromurus (*Heteromurus*) *nitidus* (Templeton, 1835)
Orchesella cincta (Linnaeus, 1758)
Orchesella disjuncta Stach, 1960
Orchesella flavescens (Bourlet, 1839)
Orchesella frontimaculata Gisin, 1946
Orchesella multifasciata Stscherbacow, 1898
Orchesella pseudobifasciata Stach, 1960
Orchesella spectabilis Tullberg, 1872
Orchesella xerothermica Stach, 1960

CYPHODERIDAE BÖRNER, 1913

Cyphoderus albinus Nicolet, 1842

TOMOCERIDAE BÖRNER, 1913

Tomocerus minor (Lubbock, 1862)
Tomocerus minutus Tullberg, 1876
Tomocerus vulgaris (Tullberg, 1871)
Pogonognathellus flavescens (Tullberg, 1871)
Pogonognathellus longicornis (Muller, 1776)

NEELIDAE FOLSOM, 1896

Neelus murinus Folsom, 1896
Megalothorax minimus Williem, 1900

SMINTHURIDIDAE BÖRNER, 1906

Sphaeridia pumilis (Krausbauer, 1898)

ARRHOPALITIDAE STACH, 1956

Arrhopalites caecus (Tullberg, 1871)
Arrhopalites pygmaeus (Wankel, 1869)

KATIANNIDAE BÖRNER, 1913

Sminthurinus aureus (Lubbock, 1862)
Sminthurinus bimaculatus (Axelson, 1902)
Sminthurinus elegans (Fitch, 1863)
Sminthurinus niger (Lubbock, 1868)
Gisianus flammeolus (Gisin, 1957)

DICYRTOMIDAE BÖRNER, 1906

Dicyrtoma fusca (Lucas, 1849)
Ptenothrix atra (Linnaeus, 1758)

SMINTHURIDAE BÖRNER, 1913

Lipothrix lubbocki (Tullberg, 1872)
Sminthurus marginatus Schoett, 1893
Caprainea echinata (Stach, 1930)
Spatulosminthurus flaviceps (Tullberg, 1871)

Remarks: As a result of long term investigations, we found 339 species of soil invertebrates from six forest types from the Codri Reserve. These included 143 species of nematodes belong to 92 genera, 50 families and 9 orders; 88 species of oribatei belong to 62 genera and 39 families; 108 species of Collembola belong to 52 genera and 15 families.

We discovered 8 new species: *Aporcelaimellus amplexor, Drilocephalobus moldavicus, Alirhabditis clavatus, Tripyla longicaudata, Tylencholaimus pacificus, Oxydirus terramoldavicus, Diphtherophora tegumenta* (Nematoda) and *Protaphorura rectopunctata* (Collembola).

The largest number of species were found in the nematode families: Tylenchidae (9 species), Cephalobidae (20), Plectidae (8) and Qudsianematidae (13) Oribatei Oppiidae (9) and Galumnidae (4) and Collembola Hypogastruridae (11), Onychiuridae (13), Isotomidae (17) and Entomobryidae (36).

The Codri Reserve represents the biggest and most important intact protected zone in central Moldova.

The Reserve contains many types of forests present in the Republic. As a result of the completed investigations, rich and diverse fauna of soil invertebrates have been revealed, including eight endemic species which are an indicator of a stable forest environment formed over a long period of time. Although the Reserve is situated in an area that is densely populated, special conditions exist for protecting animal gene pools, including pedobiants. At present, research is necessary in order to continue expanding a broader inventory of soil invertebrates.

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